

Aft tube only - shg 29/02

~~U/R~~

Work Order ID 79967

\*79967\*

Page 1

February-08-12 10:17:35 AM

Item ID: D3391-025

Accept

\*N9000040100\*

Setup Start \*NS1\*

Revision ID:

Item Name: Aft Tube Assembly

Stop \*NS2\*

Start Date: 08/02/2012 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 22/02/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: M.C.J.

Date: 12/02/08 Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3391

I

100

0.00

\*100\*

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599

Rev: A & Dwg D3391 Rev: I

\*\*\*scribe batch # on fwd end at 90 degree\*\*\*

mm.l 12/02/21

110

QC2- Inspect parts off machine FAI/FAIB

0.00

\*110\*

QC

Memo

0.00

Quality Control

mm.l 12/02/21

111

QC8- Inspect parts - second check

0.00

\*111\*

QC

Memo

0.00

Quality Control

\*\*\*INSPECT INSIDE BORE\*\*\*

12/2/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 79967

**\*79967\***

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February-08-12 10:17:35 AM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 08/02/2012 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 22/02/2012 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 <b>*120*</b> HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1  Memo 1-Machine as per Folio FA 599 Rev: <u>AA</u> & Dwg D3391 Rev: <u>1</u> 2-Deburr	0.00 0.00							<u>SL 12-02-23</u> ①
130 <b>*130*</b> QC Quality Control	QC2- Inspect parts off machine FAI/FAIB  Memo	0.00 0.00							<u>SL 12-02-23</u>
140 <b>*140*</b> QC Quality Control	QC8- Inspect parts - second check  Memo ***INSPECT INSIDE BORE***	0.00 0.00							<u>SL 12/2/23</u> <u>1</u>

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

**Part No:** \_\_\_\_\_ **PAR #:** \_\_\_\_\_ **Fault Category:** \_\_\_\_\_ **NCR:** Yes No **DQA:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**Resolution:** \_\_\_\_\_ **Disposition:** \_\_\_\_\_ **QA: N/C Closed:** \_\_\_\_\_ **Date:** \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Work Order ID 79967

\*79967\*

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February 08 12 10:17:35 AM

Item ID: D3391-025

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Aft Tube Assembly

Start Date: 08/02/2012 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 22/02/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150		0.00							
<b>*150*</b>	Skidtubes								
Skidtubes	<b>Memo</b>	0.00							
Skidtubes	1-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803								
160		0.00							
<b>*160*</b>	BENDING MACHINE - SKIDTUBES								
CNC Bend 1	<b>Memo</b>	0.00							
CNC Delta 100 Bender	Form as per Dwg D3391 Using Bend Prog 3391025								
170		0.00							
<b>*170*</b>	QC5- Inspect part completeness to step on W/O								
QC	<b>Memo</b>	0.00							
Quality Control									

PC 12/02/24

DP 12-2-24

4.40<sup>h</sup>

1 0 BE 12-02-24

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
		MS-5						

**NOTE:** Date & initial all entries

# Work Order ID 79967

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February-08-12 10:17:35 AM

Item ID:	D3391-025	Accept	<b>*N900040100*</b>	Setup	Start	<b>*NS1*</b>
Revision ID:					Stop	<b>*NS2*</b>
Item Name:	Aft Tube Assembly					
Start Date:	08/02/2012	Start Qty:	1.00			
Required Date:	22/02/2012	Req'd Qty:	1.00			
Reference:						
Approvals:	Process Plan:	Date:	Tooling:		Run	Start
	QC:	Date:	SPC (Y/N):			Stop
						<b>*NR1*</b>
						<b>*NR2*</b>

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180		0.00							
<b>*180*</b>	Skidtubes								
Skidtubes	<p><b>Memo</b></p> <p>1-Open Aft cap pilot hole to .208" as per Dwg D3391</p> <p>2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.</p> <p>3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) &amp; DT8217 Wearplate Jig.</p> <p>*****Do Not Open To Finished Size*****</p> <p>4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes.</p> <p>5-Open wearplate holes to 0.250" and c'bore as per dwg D3391</p> <p>6-Open up all wearshoe , wearplate to 0.297"and float bag holes to 0.328" as per Dwg D3391.</p> <p>7-Deburr</p>								

12/02/27

12/02/27

DP 12-2-27

12/02/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes + No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**\*79967\***

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**Accept**

**\*N900040100\***

Setup Start **\*NS1\***

Stop \*NS2\*

**Start Date:** 08/02/2012    **Start Qty:** 1.00    **\*1\***

**Cust Item ID:**

**Required Date:** 22/02/2012      **Req'd Qty:** 1.00      **\* 1 \***

**Customer:**

**Reference:**

Run Start \*NR1\*

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

### Operation Description

### Set Up/ Run Hours

Tool ID	Tool #	Plan Code
---------	--------	-----------

**Accept  
Qty**

Reject  
Qty

### Reject Number

**Insp.  
Stamp**

190

QC5- Inspect part completeness to step on W/O

0.00

\*190\*

QC

## Memo

0.00

## Quality Control

200

Chemical Conversion Coat per QSI005 4.1

0.00

**\*200\***

HandFinish

## Memo

0.00

## Hand Finishing

210

~~QC3~~- Inspect Part Finish

0.00

**\*210\***

QC

# Memo

0.00

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 79967

**\*79967\***

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February-08-12 10:17:35 AM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 08/02/2012 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 22/02/2012 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220		0.00							
<b>*220*</b>	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: <u>M120666</u> exp. date: <u>13/6/30</u> cure time 12hrs as per QSI0015								
230	QC5- Inspect part completeness to step on W/O	0.00							
<b>*230*</b>									
QC	Memo	0.00							
Quality Control									
235	Pressure Wash per QSI005 4.3	0.00							
<b>*235*</b>									
HandFinish	Memo	0.00							
Hand Finishing	AND REALODINE AS PER PAR09-043								

*Handwritten: > DP 12-2-27*

*Handwritten: 8/26/28*

*Handwritten: 1 a @ M/12-02-28*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 79967

**\*79967\***

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February-08-12 10:17:35 AM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 08/02/2012 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 22/02/2012 Req'd Qty: 1.00 **\*1\*** Customer:

## Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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240	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
<b>*240*</b>									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: <u>2:45</u>								
	OVEN TEMPERATURE: <u>3200F</u>								
	FINISH TIME: <u>3:15</u>								

*1X6 m-f 12/02/28*

250	QC3- Inspect Part Finish	0.00							
<b>*250*</b>									
QC	Memo	0.00							
Quality Control									

*1 d MU 12/02/29 Pro ->*

260	HandFinishing	0.00							
<b>*260*</b>									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3391								
	2-Install Aft Cap as per Dwg D3391								
	A/R Sikaflex-241/-291 <u>M119508</u>								
	Sikaflex expiry date: <u>12/08</u>								
	3- INSTALL WEARPLATES AS PER DWG								

*1 d MU 12/01/28*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3391-025 PAR #:          Fault Category: Finishing / Powder Coat NCR: Yes No      DQA:      Date: 12/3/11  
 Resolution: Re work Disposition: Re work QA: N/C Closed:      Date: 12/3/11

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/02/11	#250	Found at QC3 inspection that Powder coat was too thin/misap on top Bend area at a length of	S 057042 12/02/11	- Strip entire tube. - Re Powder coat as per Q52 005	M- 12/02/11	M 12/02/11 X1	S 12/02/11 057042	S 12/02/11
		15.0". R.C. LOA employee was Rushing	S 057047 12/02/11	Start 12:00 Temp 3200°F Fin 12:30	M- 12/02/11	M 12/02/11 X1	S 12/02/11 057042	S 12/02/11

NOTE: Date & initial all entries

**Work Order ID 79967**

February-08-12 10:17:35 AM

**\*79967\***

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Item ID: D3391-025

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 08/02/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 22/02/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	QC5- Inspect part completeness to step on W/O	0.00							
<b>*270*</b>		5.12/02/29							
QC	Memo	0.00							
Quality Control									
280	Identify as per dwg & Stock Location: _____	0.00							
<b>*280*</b>									
Packaging	Memo	0.00							
Packaging									
290	QC21- Final Inspection - Work Order Release	0.00							
<b>*290*</b>									
QC	Memo	0.00							
Quality Control									

bbl/29

MLJ 12/02/29

R12-02-29

**Dart Aerospace Ltd**

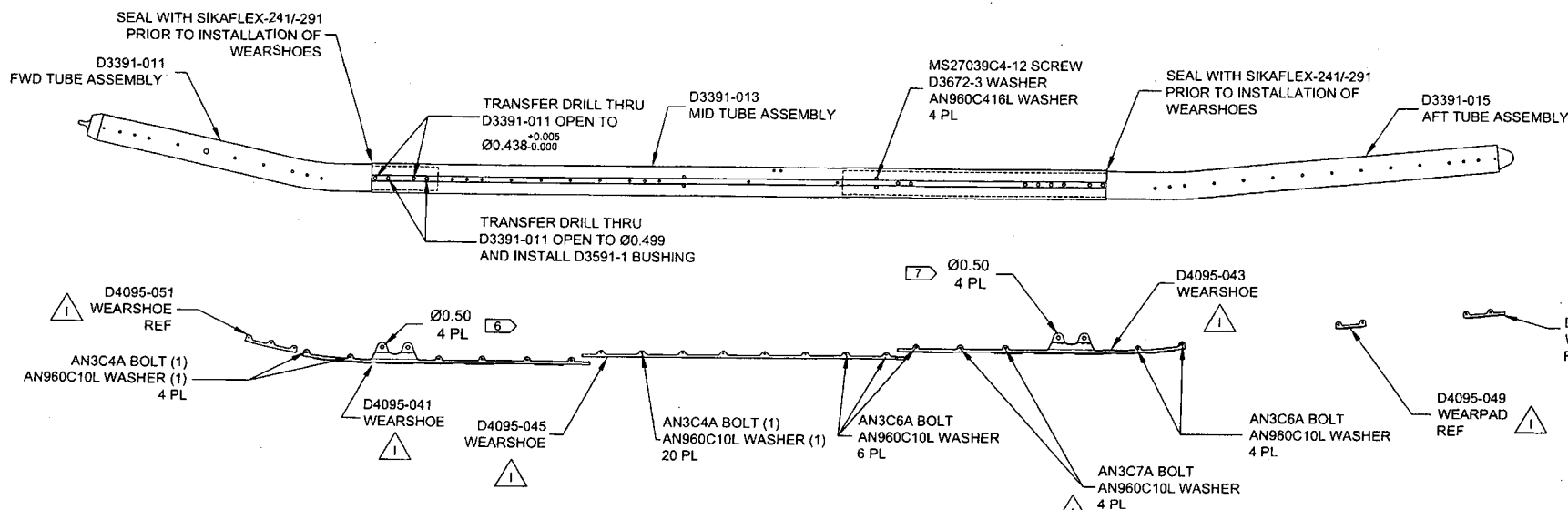
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	Float Skidtube Assembly
1	D3391-011	FWD Tube Assembly
1	D3391-013	MID Tube Assembly
1	D3391-015	AFT Tube Assembly
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

**D3391-041 ASSEMBLY**




SHOP COPY

RETURNED

UNCONTROLLED COPY

NO. 79967

RELEASED  
2011-11-04  
ECN#11-662

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	XDF		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.10.13		
<b>DART AEROSPACE USA, INC</b> KENT, WA			
DRAWING NO. D3391		REV. I SHEET 1 OF 8	
TITLE 412 FLOAT SKIDTUBE		SCALE NTS	
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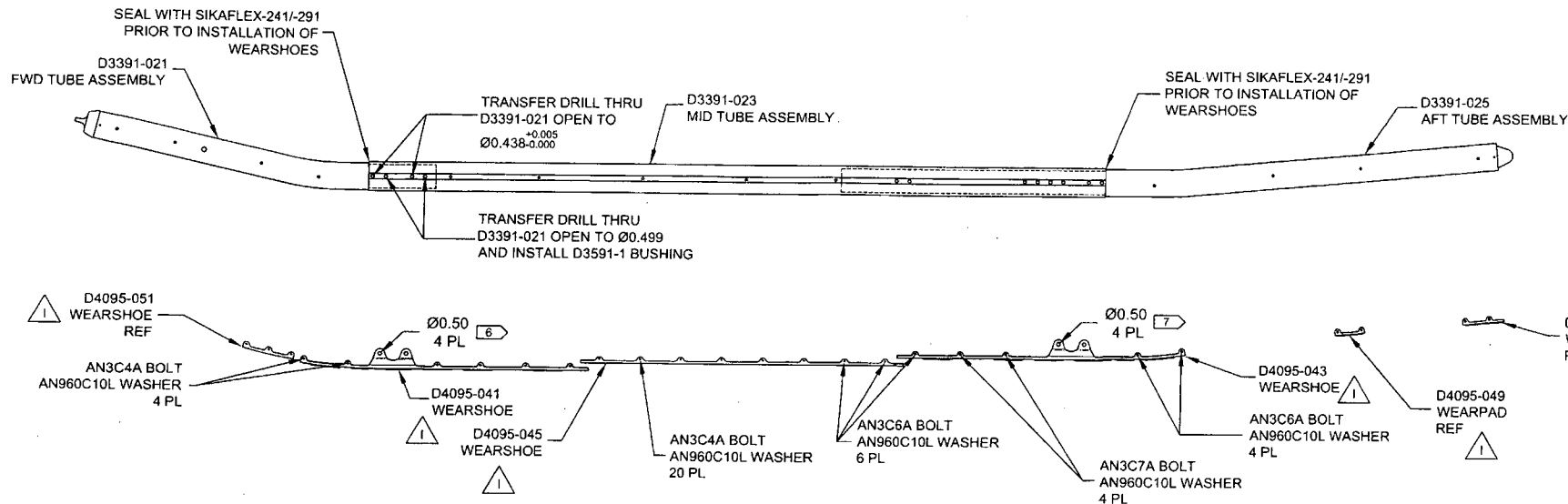
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3391-043 ASSEMBLY**

**D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY -043	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER

**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER. TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) UNITS: INCHES UNLESS OTHERWISE NOTED
- 4) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 5) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 6) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043
- 7)

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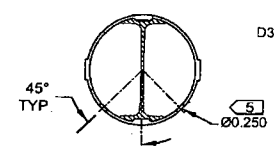
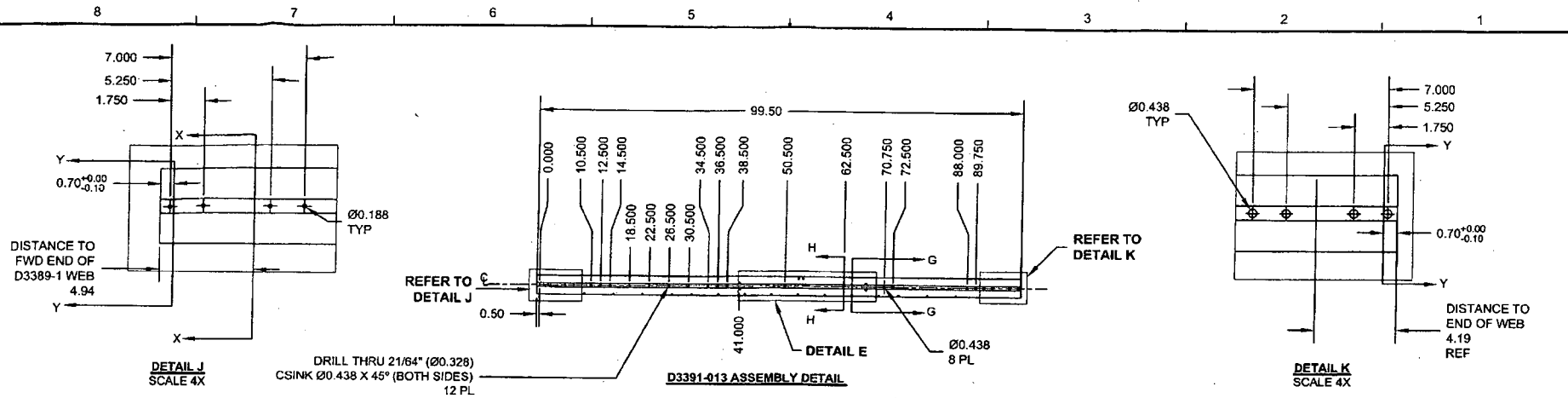
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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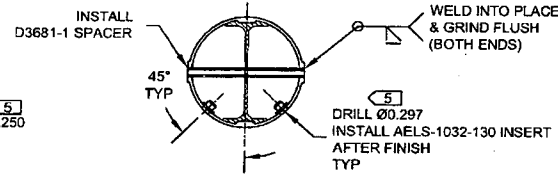
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

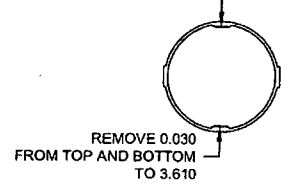
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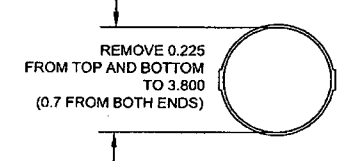
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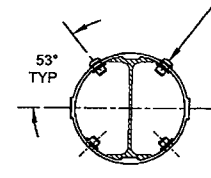
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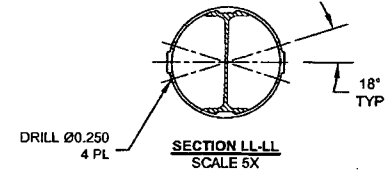
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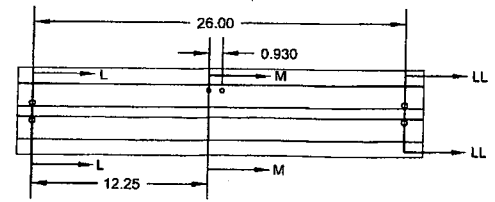
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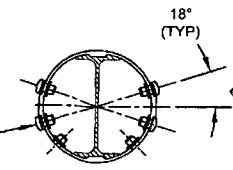
SECTION M-M  
SCALE 5X



SECTION L-L  
SCALE 5X



DETAIL E  
SCALE NONE



SECTION L-L  
SCALE 5X

**D3391-013 MID TUBE ASSEMBLY PARTS LIST**

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN980C10L	WASHER
4	AN980C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

- D3391-013 MID TUBE ASSEMBLY**
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
  - 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
  - 3) WELDING: PER DART QSI 004

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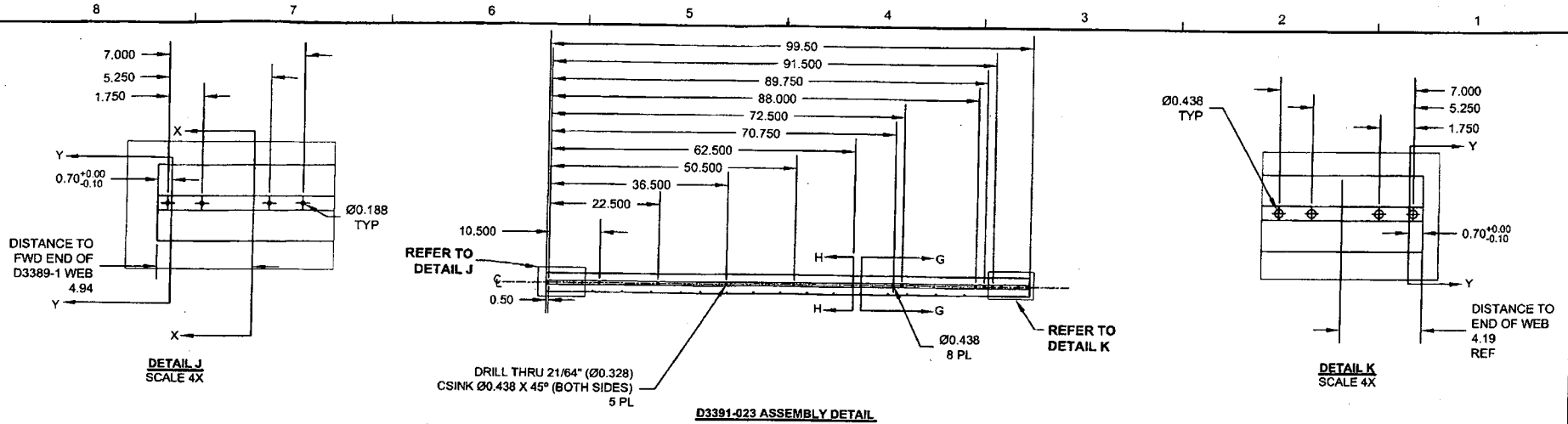
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

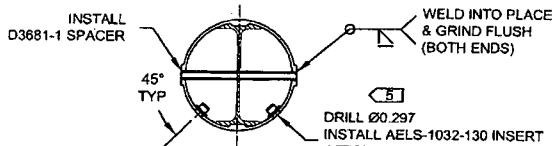
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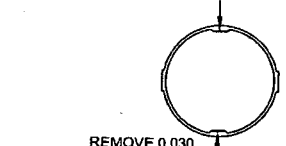
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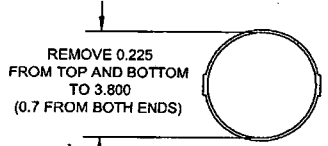
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

- D3391-023 MID TUBE ASSEMBLY**
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
  - 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
  - 3) WELDING: PER DART QSI 004

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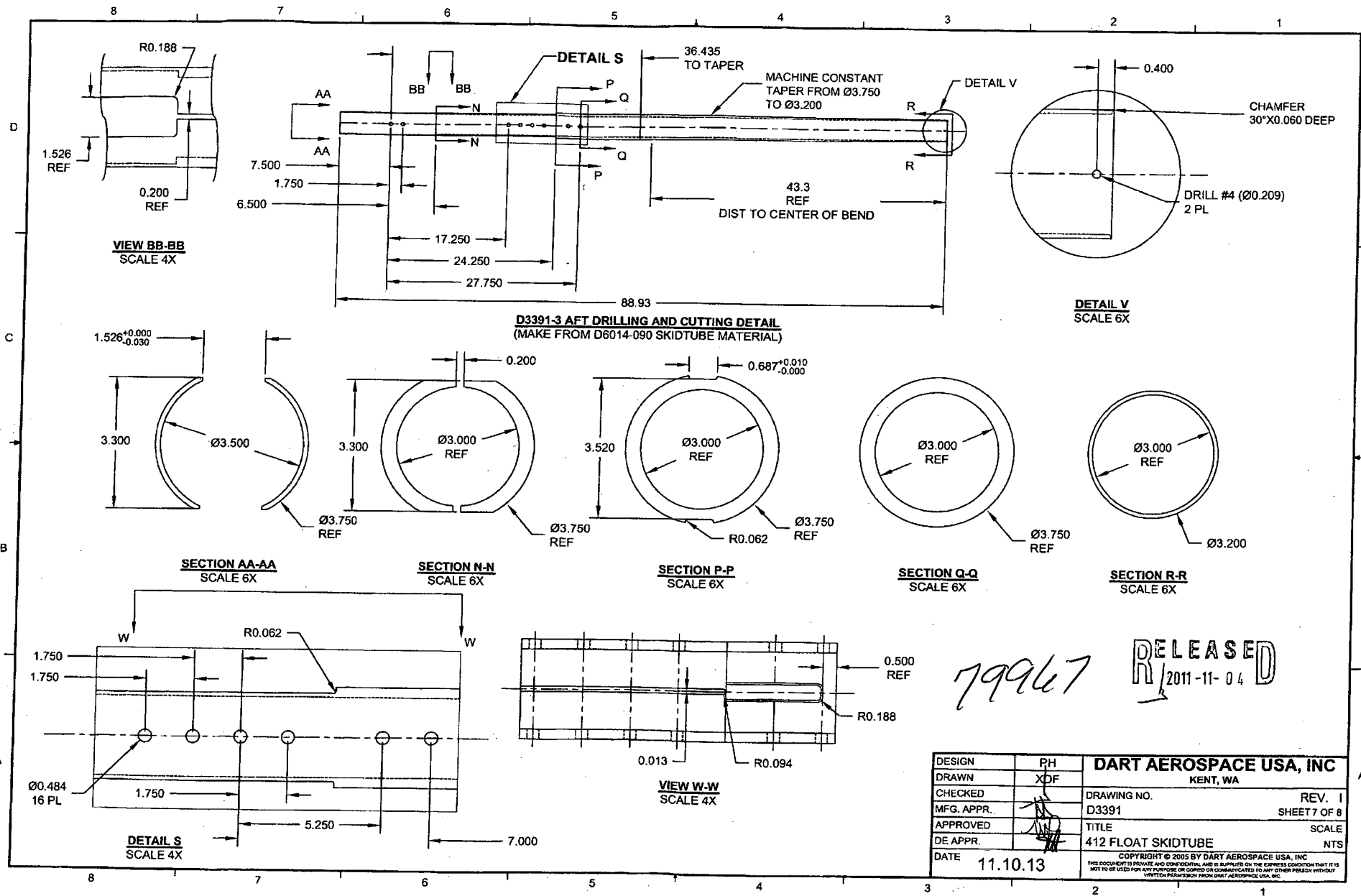
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
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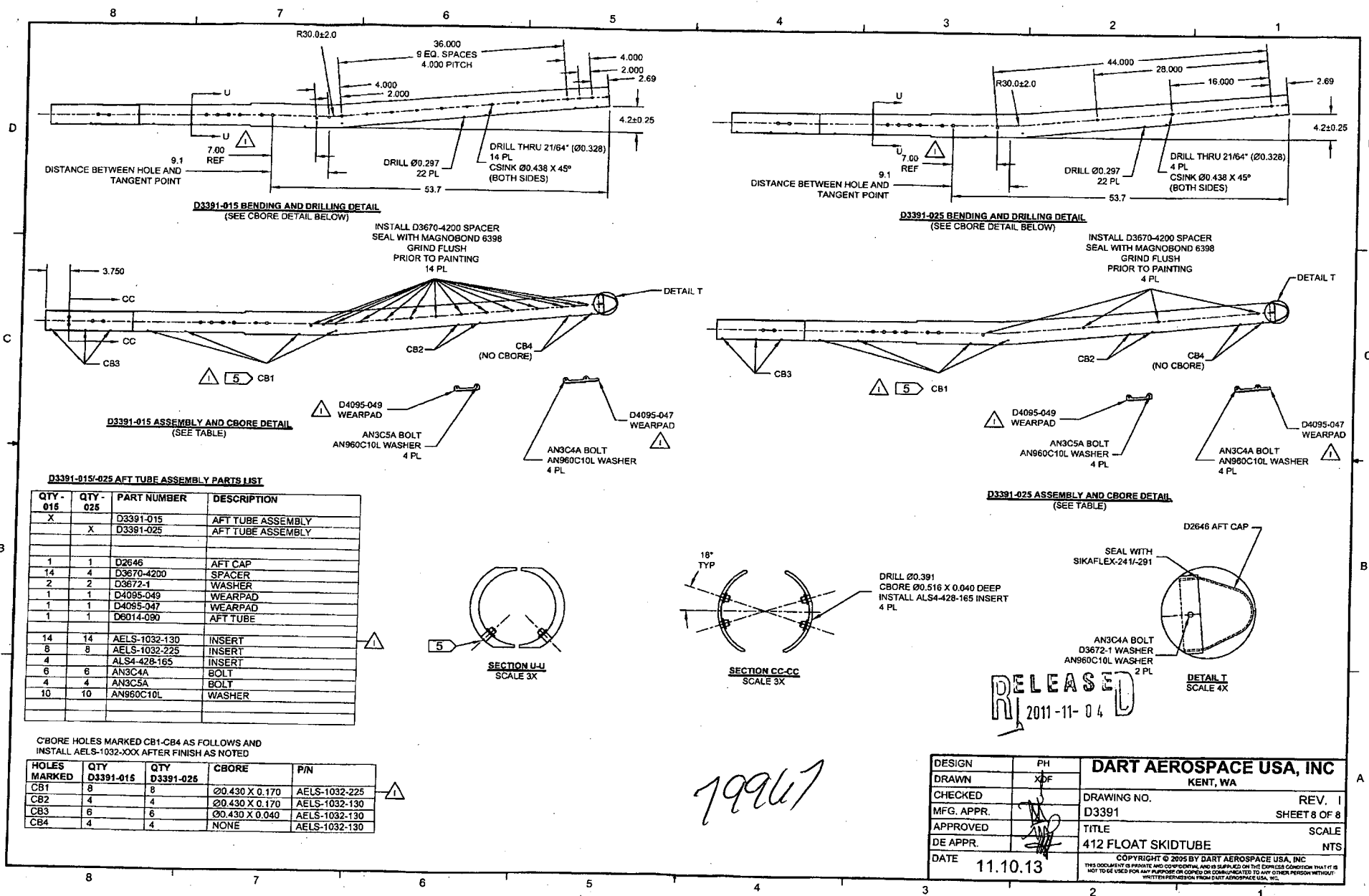
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**Dart Aerospace Ltd**

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 79967
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b> D3391-3
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> H J	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<b>Lathe Section</b>						
14.000	+/-0.010	14.000	/		tape	MAN-L-82
3.500	+/-0.010	3.499	/		vern	CWC-08
88.93	+/-0.030	88.920	/		tape	MAN-L-82
Ø3.200	+/-0.010	3.199	/		vern	CWC-08
88.93	+/-0.030	88.920	/		tape	MAN-L-82
Ø3.750	+/-0.010	3.750	/		vern	CWC-08
30° x 160° chamfer	+/-0.010	30° x 160°	/		11	

<b>Measured by:</b> Mgm-L	<b>Date:</b> 12/02/17
<b>Audited by:</b> [Signature]	<b>Date:</b> 12/21/24

<b>HAAS Section</b>						
1.526	+0.000/-0.030	1.520	/		vern CWC-02	
7.500	+/-0.010	7.500	/			
27.750	+/-0.010	27.750	/		m tape	
31.750	+/-0.010	31.750	/			
35.250	+/-0.010	35.250	/			
3.300	+/-0.010	3.301	/		vern CWC-02	
0.200	+/-0.010	.201	/			
3.520	+/-0.010	3.522	/			
0.687	+0.010/-0.000	.690	/			
R0.062	+/-0.010	.062	/			
Ø0.484	+0.005/-0.001	.487	/			

<b>Measured by:</b> [Signature]	<b>Date:</b> 12-02-23
<b>Audited by:</b> [Signature]	<b>Date:</b> 12/21/24

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	[Signature]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

& initial-all entries